

CAT Data Interpretation & Logical Reasoning

Sample Paper – 18

Duration: 40 Minutes

Maximum Marks: 60

Instructions

- This paper contains **20 questions** across **4 sets** (2 Data Interpretation + 2 Logical Reasoning), modelled on the DILR section of **CAT**.
- Each correct answer carries **+3 marks**. There is a penalty of **–1 mark per wrong answer**; **0** marks for unattempted questions.
- All 20 questions are single-correct MCQ. Maximum Marks: **60**.
- **No personal calculators** are permitted; a basic on-screen calculator is provided in the actual CAT exam.
- **Rough sheets** are provided at the test centre. Each set has a common data/scenario; read it carefully before attempting the questions.

Set A: Data Interpretation — E-Commerce Platform Orders (Q1 – Q5)

The table below shows the **quarterly orders** (in thousands) of five product categories on an e-commerce platform across four quarters of a year.

Category	Q1	Q2	Q3	Q4
Electronics	500	600	750	900
Clothing	400	380	420	500
Groceries	600	650	700	620
Toys	200	250	300	350
Books	100	120	110	140

Q1. Based on the table above, what was the **total number of orders** (in thousands) placed across **all categories** in **Q2**?

- (A) 1900
(B) 2000



(C) 2100

(D) 2200

Q2. Which category showed a **decrease** in orders from **Q1 to Q2**?

(A) Electronics

(B) Groceries

(C) Clothing

(D) Books

Q3. What was the **percentage increase** in Electronics orders from **Q1 to Q4**?

(A) 70%

(B) 75%

(C) 90%

(D) 80%

Q4. Which category had the **highest total orders** across all four quarters combined?

(A) Electronics

(B) Clothing

(C) Groceries

(D) Toys

Q5. What was the **average number of Toys orders** per quarter (in thousands)?

(A) 260

(B) 275

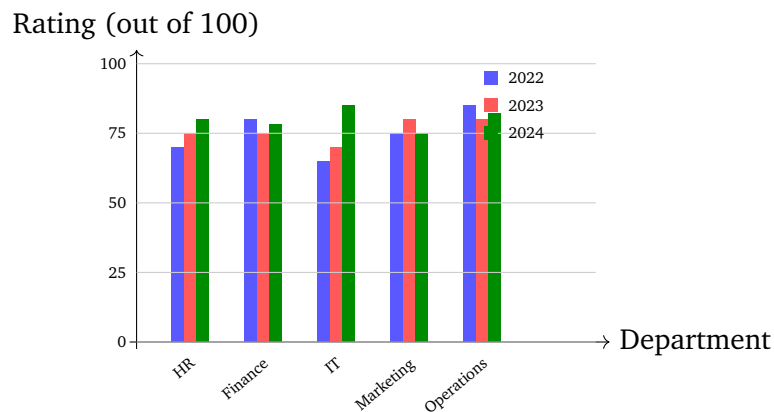
(C) 290

(D) 300



Set B: Data Interpretation — Department Performance Ratings (Q6 – Q10)

The grouped bar chart below shows the **performance ratings** (out of 100) of five departments for the years **2022**, **2023**, and **2024**.



Q6. Which department had the **highest performance rating** in **2024**?

- (A) Operations
- (B) Finance
- (C) IT
- (D) HR

Q7. What was the **average performance rating** of HR and Finance in **2023**?

- (A) 70
- (B) 72
- (C) 78
- (D) 75

Q8. Which department showed the **highest increase** in rating from **2022** to **2024**?

- (A) IT
- (B) HR
- (C) Operations



(D) Marketing

Q9. Which department showed a **decrease** in rating from **2023 to 2024**?

(A) Finance

(B) Marketing

(C) IT

(D) Operations

Q10. How many departments had a performance rating **strictly above 80** in **2022**?

(A) 0

(B) 2

(C) 1

(D) 3

Set C: Logical Reasoning — Building Floor Puzzle (Q11 – Q15)

Seven people — A, B, C, D, E, F, G — live on floors 1 to 7 of a building (floor 1 is the lowest, floor 7 is the topmost), one person per floor. The following conditions apply:

- (i) G lives on floor 7 (topmost floor).
- (ii) A lives on the floor **immediately above** B (A's floor = B's floor + 1).
- (iii) C lives on floor 4.
- (iv) D lives on a floor **between** E's floor and F's floor (i.e., $\min(E, F) < D < \max(E, F)$).
- (v) E lives on an **even-numbered** floor.
- (vi) The **absolute difference** between A's floor and G's floor is exactly 4.



Floor 7 — ?
Floor 6 — ?
Floor 5 — ?
Floor 4 — ?
Floor 3 — ?
Floor 2 — ?
Floor 1 — ?

Q11. Based on the conditions above, who lives on **floor 2**?

- (A) A
- (B) D
- (C) F
- (D) B

Q12. How many floors separate G and C (i.e., what is $|G\text{'s floor} - C\text{'s floor}|$)?

- (A) 3
- (B) 2
- (C) 4
- (D) 5

Q13. Who lives **immediately below** E?

- (A) C
- (B) D
- (C) A
- (D) F

Q14. On which floor does **F** live?

- (A) 5
- (B) 3
- (C) 1



(D) 6

Q15. Who lives on the **highest floor** among A, B, C, and D?

(A) A

(B) B

(C) C

(D) D

**Set D: Logical Reasoning — Round-
Robin Tournament (Q16 – Q20)**

Five teams — P, Q, R, S, T — play a **round-robin tournament** where each pair of teams plays exactly once. Scoring: **Win = 2 pts, Draw = 1 pt each, Loss = 0 pts**. The results matrix is shown below (row team's result against column team):

Team	vs P	vs Q	vs R	vs S	vs T	Points
P	—	W	W	D	L	5
Q	L	—	W	W	L	4
R	L	L	—	W	D	3
S	D	L	L	—	W	3
T	W	W	D	L	—	5

Q16. How many **points** did team **P** score in the tournament?

(A) 5

(B) 4

(C) 3

(D) 6

Q17. Which team **finished 3rd** in the final standings?

(A) P

(B) Q

(C) R

(D) T



Q18. How many **draws** occurred in the entire tournament?

- (A) 0
- (B) 1
- (C) 2
- (D) 3

Q19. Which team was the **only team** to defeat T?

- (A) P
- (B) Q
- (C) R
- (D) S

Q20. What was the **total number of wins** achieved by R and S **combined**?

- (A) 2
- (B) 3
- (C) 4
- (D) 1



Detailed Solutions**Sol. 1.****Solution**

Concept — Column Summation from a Table: To find the total orders in Q2, add the Q2 values for all five categories.

Step 1 — Read Q2 values for each category: Electronics = 600, Clothing = 380, Groceries = 650, Toys = 250, Books = 120.

Step 2 — Compute the total:

$$600 + 380 + 650 + 250 + 120 = 2000 \text{ thousand}$$

Why other options are wrong:

- Option A: 1900 — under-counts; misreads at least one category (e.g., treats Groceries as 600 instead of 650).
- Option C: 2100 — over-counts; may use Q3 values for one category by mistake.
- Option D: 2200 — significant over-count; inconsistent with any single mis-read.

Final Answer: Total Q2 orders = 2000 thousand $\Rightarrow$ **B**

Answer: (B) [Go Back to Q 1](#)

Sol. 2.**Solution**

Concept — Identifying a Decrease: Compare Q1 and Q2 values for each category and find the one where $Q2 < Q1$.

Step 1 — Compare Q1 and Q2 for all categories:

- Electronics: $500 \rightarrow 600 (+100)$ — Increased
- Clothing: $400 \rightarrow 380 (-20)$ — **Decreased**
- Groceries: $600 \rightarrow 650 (+50)$ — Increased
- Toys: $200 \rightarrow 250 (+50)$ — Increased
- Books: $100 \rightarrow 120 (+20)$ — Increased

Step 2 — Identify the category with a decrease: Only Clothing showed a de-



crease from Q1 (400) to Q2 (380).

Why other options are wrong:

- Option A: Electronics — increased by 100 thousand from Q1 to Q2.
- Option B: Groceries — increased by 50 thousand from Q1 to Q2.
- Option D: Books — increased by 20 thousand from Q1 to Q2.

Final Answer: Clothing orders decreased from Q1 to Q2 $\Rightarrow$ **C**

Answer: (C) [Go Back to Q 2](#)

Sol. 3.

Solution

Concept — Percentage Change: $\% \text{ change} = \frac{\text{New} - \text{Old}}{\text{Old}} \times 100$.

Step 1 — Read Electronics orders in Q1 and Q4: Q1 = 500 thousand, Q4 = 900 thousand.

Step 2 — Calculate the percentage increase:

$$\% \text{ increase} = \frac{900 - 500}{500} \times 100 = \frac{400}{500} \times 100 = 80\%$$

Why other options are wrong:

- Option A: 70% — would imply Q4 = $500 \times 1.70 = 850$, not 900.
- Option B: 75% — would imply Q4 = $500 \times 1.75 = 875$, not 900.
- Option C: 90% — would imply Q4 = $500 \times 1.90 = 950$, not 900.

Final Answer: Electronics orders increased by 80% from Q1 to Q4 $\Rightarrow$ **D**

Answer: (D) [Go Back to Q 3](#)

Sol. 4.

Solution

Concept — Row Summation: Compute the total orders across all four quarters for each category, then compare.

Step 1 — Calculate total orders for each category:



- Electronics: $500 + 600 + 750 + 900 = 2750$
- Clothing: $400 + 380 + 420 + 500 = 1700$
- Groceries: $600 + 650 + 700 + 620 = 2570$
- Toys: $200 + 250 + 300 + 350 = 1100$
- Books: $100 + 120 + 110 + 140 = 470$

Step 2 — Identify the highest: Electronics (2750) > Groceries (2570) > Clothing (1700) > Toys (1100) > Books (470).

Why other options are wrong:

- Option B: Clothing (1700) — second lowest total, far behind Electronics and Groceries.
- Option C: Groceries (2570) — a strong second, but 180 thousand less than Electronics.
- Option D: Toys (1100) — much lower than all larger categories.

Final Answer: Electronics had the highest total orders across all four quarters $\Rightarrow$

A

Answer: (A) [Go Back to Q 4](#)

Sol. 5.

Solution

Concept — Arithmetic Mean: $\text{Average} = \frac{\text{Sum of all values}}{\text{Number of values}}$

Step 1 — Read Toys orders for all four quarters: Q1 = 200, Q2 = 250, Q3 = 300, Q4 = 350.

Step 2 — Calculate the sum and average:

$$\text{Sum} = 200 + 250 + 300 + 350 = 1100$$

$$\text{Average} = \frac{1100}{4} = 275 \text{ thousand}$$

Why other options are wrong:

- Option A: 260 — would require sum = 1040, which is 60 less than the actual sum.
- Option C: 290 — would require sum = 1160, which is 60 more than the actual sum.



- Option D: 300 — would require sum = 1200; this is Q3 value, not the average.

Final Answer: Average Toys orders per quarter = 275 thousand $\Rightarrow$ **B**

Answer: (B) [Go Back to Q 5](#)

Sol. 6.

Solution

Concept — Reading a Grouped Bar Chart: The green bars (2024) represent 2024 performance ratings. Identify the tallest green bar.

Step 1 — Read the 2024 ratings for all departments:

- HR = 80, Finance = 78, IT = 85, Marketing = 75, Operations = 82

Step 2 — Identify the highest: IT = 85 is the highest rating in 2024.

Why other options are wrong:

- Option A: Operations (82) — second highest in 2024, but below IT's 85.
- Option B: Finance (78) — third highest, well below IT.
- Option D: HR (80) — below both IT and Operations in 2024.

Final Answer: IT had the highest performance rating in 2024 at 85 $\Rightarrow$ **C**

Answer: (C) [Go Back to Q 6](#)

Sol. 7.

Solution

Concept — Arithmetic Mean of Two Values: Average = $\frac{\text{HR rating} + \text{Finance rating}}{2}$ for the year 2023.

Step 1 — Read 2023 ratings for HR and Finance (red bars): HR (2023) = 75, Finance (2023) = 75.

Step 2 — Calculate the average:

$$\text{Average} = \frac{75 + 75}{2} = \frac{150}{2} = 75$$



Why other options are wrong:

- Option A: 70 — would require both HR and Finance to have a 2023 rating of 70, which is incorrect.
- Option B: 72 — would require sum = 144, but the actual sum is 150.
- Option C: 78 — would require sum = 156, which over-counts both ratings.

Final Answer: Average 2023 rating of HR and Finance = 75 $\Rightarrow$ D

Answer: (D) [Go Back to Q 7](#)

Sol. 8.

Solution

Concept — Comparing Changes Across Years: Calculate the increase (2024 rating – 2022 rating) for each department and identify the maximum.

Step 1 — Calculate the change from 2022 to 2024 for each department:

- HR: $80 - 70 = +10$
- Finance: $78 - 80 = -2$ (decrease)
- IT: $85 - 65 = +20$ (**highest increase**)
- Marketing: $75 - 75 = 0$ (no change)
- Operations: $82 - 85 = -3$ (decrease)

Step 2 — Identify the maximum increase: IT showed the highest increase of 20 rating points.

Why other options are wrong:

- Option B: HR (+10) — second highest increase, but only half of IT's increase.
- Option C: Operations (-3) — actually decreased from 2022 to 2024.
- Option D: Marketing (0) — no change at all from 2022 to 2024.

Final Answer: IT showed the highest increase (+20 points) from 2022 to 2024 $\Rightarrow$ A

Answer: (A) [Go Back to Q 8](#)



Sol. 9.

Solution

Concept — Identifying a Decrease Between Years: Compare 2023 and 2024 ratings for each department and find where $2024 < 2023$.

Step 1 — Compare 2023 and 2024 ratings for all departments:

- HR: $75 \rightarrow 80 (+5)$ — Increased
- Finance: $75 \rightarrow 78 (+3)$ — Increased
- IT: $70 \rightarrow 85 (+15)$ — Increased
- Marketing: $80 \rightarrow 75 (-5)$ — **Decreased**
- Operations: $80 \rightarrow 82 (+2)$ — Increased

Step 2 — Identify the department with a decrease: Only Marketing showed a decrease, from 80 in 2023 to 75 in 2024.

Why other options are wrong:

- Option A: Finance — increased from 75 to 78 between 2023 and 2024.
- Option C: IT — showed the largest increase (+15) from 2023 to 2024.
- Option D: Operations — increased from 80 to 82 between 2023 and 2024.

Final Answer: Marketing's rating decreased from 2023 to 2024 $\Rightarrow$ **B**

Answer: (B) [Go Back to Q 9](#)

Sol. 10.

Solution

Concept — Counting Values Above a Threshold: Count how many departments had a 2022 rating *strictly greater than* 80.

Step 1 — Read 2022 ratings (blue bars) for all departments: HR = 70, Finance = 80, IT = 65, Marketing = 75, Operations = 85.

Step 2 — Check each department against the threshold (> 80 , strictly):

- HR = 70: No ($70 \leq 80$)
- Finance = 80: No ($80 \not> 80$, not strictly above)
- IT = 65: No ($65 \leq 80$)
- Marketing = 75: No ($75 \leq 80$)
- Operations = 85: **Yes** ($85 > 80$)



Step 3 — Count: Only 1 department (Operations) had a rating strictly above 80 in 2022.

Why other options are wrong:

- Option A: 0 — ignores Operations which clearly scored 85.
- Option B: 2 — would require two departments above 80; Finance is exactly 80, not above it.
- Option D: 3 — a significant over-count; only one department qualifies.

Final Answer: Only 1 department (Operations) had a rating strictly above 80 in 2022 $\Rightarrow$ **C**

Answer: (C) [Go Back to Q 10](#)

Sol. 11.

Solution

Concept — Logical Deduction (Floor Puzzle): Apply each condition step by step to determine the unique floor assignment.

Step 1 — Apply fixed conditions: From (i): $G = \text{Floor } 7$. From (iii): $C = \text{Floor } 4$.

Step 2 — Apply condition (vi) $|A - G| = 4$: $|A - 7| = 4 \Rightarrow A = 3$ (since $A = 11$ is invalid for a 7-floor building).

Step 3 — Apply condition (ii) A immediately above B: $A = 3$, so $B = 2$.

Step 4 — Assign remaining people D, E, F to remaining floors {1, 5, 6}: From (v): E is on an even-numbered floor. Available even floors among {1, 5, 6}: only 6. So $E = 6$.

Step 5 — Assign D and F to floors 1 and 5 using condition (iv): D must lie strictly between E (6) and F. Testing $D = 5, F = 1$: $1 < 5 < 6$ ✓. Testing $D = 1, F = 5$: Need $\min(6, 5) < 1 < \max(6, 5)$, i.e., $5 < 1 < 6$ ✗. Therefore $D = 5, F = 1$.

Final arrangement: F(1), B(2), A(3), C(4), D(5), E(6), G(7).

Floor 2 is occupied by B.

Why other options are wrong:

- Option A: A — A lives on floor 3, not floor 2.
- Option B: D — D lives on floor 5, not floor 2.
- Option C: F — F lives on floor 1, not floor 2.



Final Answer: B lives on floor 2 $\Rightarrow$ D

Answer: (D) [Go Back to Q 11](#)

Sol. 12.

Solution

Concept — Absolute Difference of Floor Numbers: From the derived arrangement: F(1), B(2), A(3), C(4), D(5), E(6), G(7).

Step 1 — Identify G's and C's floor numbers: G = Floor 7, C = Floor 4.

Step 2 — Calculate the absolute difference:

$$|7 - 4| = 3 \text{ floors}$$

Why other options are wrong:

- Option B: 2 — would require floors 4 and 6 (or 5 and 7), not the actual floors of G and C.
- Option C: 4 — would imply C is on floor 3 or G is on floor 3, both inconsistent with the conditions.
- Option D: 5 — would imply C is on floor 2, contradicting condition (iii) which fixes C = 4.

Final Answer: G and C are separated by 3 floors $\Rightarrow$ A

Answer: (A) [Go Back to Q 12](#)

Sol. 13.

Solution

Concept — Immediate Neighbour (Below): The person “immediately below E” occupies the floor numbered one less than E's floor.

Step 1 — Identify E's floor: From the derived arrangement, E = Floor 6.

Step 2 — Identify the floor immediately below E (floor 5): From the arrangement: D occupies floor 5.

Why other options are wrong:



- Option A: C — C is on floor 4, two floors below E.
- Option C: A — A is on floor 3, three floors below E.
- Option D: F — F is on floor 1, five floors below E.

Final Answer: D lives immediately below E (on floor 5) $\Rightarrow$ **B**

Answer: (B) [Go Back to Q 13](#)

Sol. 14.

Solution

Concept — Reading the Derived Arrangement: From the fully derived arrangement: F(1), B(2), A(3), C(4), D(5), E(6), G(7).

Step 1 — Locate F in the arrangement: F is assigned to **floor 1**.

Step 2 — Verify with condition (iv): D(5) lies strictly between E(6) and F(1): $1 < 5 < 6$ ✓.

Why other options are wrong:

- Option A: Floor 5 — floor 5 is occupied by D, not F.
- Option B: Floor 3 — floor 3 is occupied by A, not F.
- Option D: Floor 6 — floor 6 is occupied by E, not F.

Final Answer: F lives on floor 1 $\Rightarrow$ **C**

Answer: (C) [Go Back to Q 14](#)

Sol. 15.

Solution

Concept — Comparing Floor Numbers: From the arrangement: A(3), B(2), C(4), D(5). Identify the highest floor among these four.

Step 1 — List the floor numbers of A, B, C, D: A = 3, B = 2, C = 4, D = 5.

Step 2 — Compare and identify the maximum: $5 > 4 > 3 > 2$. D lives on the highest floor (floor 5) among A, B, C, D.

Why other options are wrong:

- Option A: A (floor 3) — third highest among the four.



- Option B: B (floor 2) — the lowest floor among the four.
- Option C: C (floor 4) — second highest, but D at floor 5 is higher.

Final Answer: D lives on the highest floor (floor 5) among A, B, C, D $\Rightarrow$ **D**

Answer: (D) [Go Back to Q 15](#)

Sol. 16.

Solution

Concept — Points Calculation in Round-Robin: Win = 2 pts, Draw = 1 pt, Loss = 0 pts.

Step 1 — Identify P's results from the matrix: P vs Q: Win (2 pts), P vs R: Win (2 pts), P vs S: Draw (1 pt), P vs T: Loss (0 pts).

Step 2 — Sum P's points:

$$2 + 2 + 1 + 0 = 5 \text{ points}$$

Why other options are wrong:

- Option B: 4 pts — would require only 2 wins and no draw, or different results than given.
- Option C: 3 pts — would require only 1 win and 1 draw, inconsistent with the matrix.
- Option D: 6 pts — would require 3 wins and no losses, but P lost to T.

Final Answer: P scored 5 points $\Rightarrow$ **A**

Answer: (A) [Go Back to Q 16](#)

Sol. 17.

Solution

Concept — Tournament Standings: Rank teams by total points (descending). In case of a tie, both teams share the position.

Step 1 — Compile points for all teams:

- P: W vs Q, W vs R, D vs S, L vs T = $2 + 2 + 1 + 0 = 5$ pts
- Q: L vs P, W vs R, W vs S, L vs T = $0 + 2 + 2 + 0 = 4$ pts



- R: L vs P, L vs Q, W vs S, D vs T = $0 + 0 + 2 + 1 = 3$ pts
- S: D vs P, L vs Q, L vs R, W vs T = $1 + 0 + 0 + 2 = 3$ pts
- T: W vs P, W vs Q, D vs R, L vs S = $2 + 2 + 1 + 0 = 5$ pts

Step 2 — Rank teams: P & T tied at 5 pts (1st/2nd), Q = 4 pts (**3rd**), R & S tied at 3 pts (4th/5th).

Why other options are wrong:

- Option A: P (5 pts) — tied for 1st place, not 3rd.
- Option C: R (3 pts) — tied for 4th place, not 3rd.
- Option D: T (5 pts) — tied for 1st place, not 3rd.

Final Answer: Q finished 3rd with 4 points $\Rightarrow$ **B**

Answer: (B) [Go Back to Q 17](#)

Sol. 18.

Solution

Concept — Counting Draw Matches: A draw is recorded when both teams receive 1 point each from a match. Scan the results matrix for “D” entries (counting each match once).

Step 1 — Identify all draw matches from the matrix:

- P vs S: D (row P, column vs S) — **Draw Match 1**
- R vs T: D (row R, column vs T) — **Draw Match 2**

Note: Each match appears twice in the matrix (once for each team’s row), so we count unique matches only.

Step 2 — Count total draws: There are exactly **2** draw matches in the entire tournament.

Why other options are wrong:

- Option A: 0 draws — incorrect; the matrix clearly shows D entries for P–S and R–T.
- Option B: 1 draw — misses one of the two draw matches.
- Option D: 3 draws — over-counts; there is no third draw match in the matrix.

Final Answer: 2 draws occurred in the tournament $\Rightarrow$ **C**



Answer: (C) [Go Back to Q 18](#)

Sol. 19.

Solution

Concept — Identifying the Team That Defeated T: From the results matrix, check the column “vs T” to see which row shows a Win (W).

Step 1 — Check each team’s result against T (column “vs T”):

- P vs T: L (P lost to T)
- Q vs T: L (Q lost to T)
- R vs T: D (R drew with T)
- S vs T: W (**S defeated T**)

Step 2 — Verify: Only S has a Win against T. All other teams either lost or drew against T.

Why other options are wrong:

- Option A: P — P lost to T (T has a Win against P).
- Option B: Q — Q lost to T (T has a Win against Q).
- Option C: R — R drew with T; a draw is not a defeat.

Final Answer: S was the only team to defeat T $\Rightarrow$ **D**

Answer: (D) [Go Back to Q 19](#)

Sol. 20.

Solution

Concept — Counting Wins from the Results Matrix: Count the number of “W” entries in R’s row and S’s row (each W corresponds to one win).

Step 1 — Count R’s wins from the matrix: R’s row: vs P = L, vs Q = L, vs R = —, vs S = W, vs T = D. R has **1 win** (against S).

Step 2 — Count S’s wins from the matrix: S’s row: vs P = D, vs Q = L, vs R = L, vs S = —, vs T = W. S has **1 win** (against T).

Step 3 — Combine: Total wins by R and S combined = $1 + 1 = 2$.



Why other options are wrong:

- Option B: 3 — would require one of R or S to have 2 wins, but each has only 1.
- Option C: 4 — would require both R and S to each have 2 wins, which they don't.
- Option D: 1 — would mean only one win total between R and S, ignoring that each has exactly 1 win.

Final Answer: R and S combined achieved 2 wins $\Rightarrow$ A

Answer: (A) [Go Back to Q 20](#)



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	C	3	D	4	A	5	B
6	C	7	D	8	A	9	B	10	C
11	D	12	A	13	B	14	C	15	D
16	A	17	B	18	C	19	D	20	A

Quick Reference: Correct Answers

Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	6	C	11	D	16	A
2	C	7	D	12	A	17	B
3	D	8	A	13	B	18	C
4	A	9	B	14	C	19	D
5	B	10	C	15	D	20	A

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